

# INTERNATIONAL SEARCH REPORT

Inter al Application No  
PCT/JP2004/011954

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 F04B43/08

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 F04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)  
EPO-Internal, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3 182 602 A (PRICE WILLIAM B) 11 May 1965 (1965-05-11) the whole document	1-22
A	US 5 964 583 A (DANBY HAL C) 12 October 1999 (1999-10-12) the whole document	1-22
A	PATENT ABSTRACTS OF JAPAN vol. 1996, no. 11, 29 November 1996 (1996-11-29) & JP 8 170590 A (KAYSEVEN CO LTD), 2 July 1996 (1996-07-02) cited in the application abstract	1-22
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
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- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \* & \* document member of the same patent family

Date of the actual completion of the international search

24 November 2004

Date of mailing of the international search report

02/12/2004

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 1996, no. 05, 31 May 1996 (1996-05-31) & JP 8 028453 A (MIYAMA KK), 30 January 1996 (1996-01-30) cited in the application abstract	1-22
A	PATENT ABSTRACTS OF JAPAN vol. 2002, no. 07, 3 July 2002 (2002-07-03) & JP 2002 070748 A (HITACHI LTD), 8 March 2002 (2002-03-08) cited in the application abstract	1-22

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No  
PCT/JP2004/011954

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 3182602	A	11-05-1965	NONE	
US 5964583	A	12-10-1999	NONE	
JP 8170590	A	02-07-1996	NONE	
JP 8028453	A	30-01-1996	NONE	
JP 2002070748	A	08-03-2002	NONE	